

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-28 (cancelled).

Claim 29. (currently amended) Materials for in vivo repair of cartilage ~~A cartilage membrane~~, comprising:

a cartilage membrane for application over a cartilage free cavity comprising at least one surface part carrying a composition comprising at least one stimulation molecule, which induces a signal transduction in chondroblasts/chondrocytes; and

a suspension capable of filling the cartilage free cavity.

Claim 30. (currently amended) Materials ~~A cell-free cartilage membrane~~ according to claim ~~67~~<sup>29</sup>, wherein the proteoglycan is selected from the group consisting of aggrecans, decorin, fibromodulin and biglycan, and the non-collagenous protein is selected from the group consisting of cryoprecipitate, fibronectin, vitronectin, fibrinogen, fibrillin, kistrin, echistatin, von Willebrand factor, tenascin and anchorin CII.

Claim 31. (previously presented) Materials ~~A cell-free cartilage membrane~~ according to claim 29, wherein the cartilage membrane ~~which~~ is a non-immunogenic, non-toxic, biodegradable membrane.

Claim 32. (previously presented) Materials ~~A cell-free cartilage membrane~~ according to claim 29, wherein the membrane material is porous or substantially porous.

Claims 33-39. (cancelled)

Claim 40. (previously presented) Materials ~~A cell-free cartilage membrane~~ according to claim 2939, wherein the stimulation molecule is a natural or synthetic protein or peptide or a fusion or mixture thereof.

Claim 41. (previously presented) Materials ~~A cell-free cartilage membrane~~ according to claim 40, wherein the stimulation molecule is selected from the group consisting of collagen type II and fibronectin.

Claim 42. (previously presented) ~~A cell-free cartilage membrane~~ according to claim 41, wherein the stimulation molecule is attached to a support.

Claims 43-51 (cancelled).

Claim 52. (Currently amended) A kit for cartilage repair comprising:

~~a cell-free cartilage membrane~~ for application over a cartilage free cavity comprising at least one surface part carrying a composition comprising at least one stimulation molecule which induces a signal transduction in chondroblasts/chondrocytes ~~and which is selected from the group consisting of collagen proteins, proteoglycans and non-collagenous proteins;~~ and  
a suspension capable of filling the cartilage free cavity.

Claims 53-57 (cancelled).

Claim 58. (New) The kit of claim 52, wherein the suspension capable of filling the cartilage free cavity is a chondroblast/chondrocyte suspension.

Claim 59. (New) The kit of claim 52, wherein the stimulation molecule is selected from the group consisting of collagen proteins, proteoglycans and non-collagenous proteins.

Claim 60. (New) The kit of claim 52, wherein the kit is also for bone repair and further comprises:

an interface membrane for application over a bone free cavity, the interface membrane comprising a first surface part facing the bone free cavity and carrying a composition comprising at least one stimulation molecule which is capable of inducing a signal transduction in osteoblast/osteocyte, and a second surface part carrying a composition comprising at least one stimulation molecule which induces a signal transduction in chondroblasts/chondrocytes; and  
a suspension capable of filling the bone free cavity.

Claim 61. (New) The kit of claim 60, wherein the suspension capable of filling the bone free cavity is an osteoblast/osteocyte suspension.

Claim 62. (New) The kit of claim 52, wherein the cartilage membrane is non-immunogenic, non-toxic, and biodegradable.

Claim 63. (New) The kit of claim 52, wherein the cartilage membrane is porous or substantially porous.

Claim 64. (New) The kit of claim 52, wherein the cartilage membrane is natural or synthetic collagen type I membrane of a part thereof.

Claim 65. (New) Materials of claim 29, wherein the stimulation molecule comprises at least one RGD motif.

Claim 66. (New) Materials of claim 65, wherein the stimulation molecule is a natural or synthetic protein or peptide or a fusion or mixture thereof.

Claim 67. (New) Materials of claim 65, wherein the stimulation molecule is selected from the group consisting of collagen proteins, proteoglycans, and non-collagenous proteins.

Claim 68. (New) Materials of claim 65, wherein the stimulation molecule is selected from collagen type II and fibronectin.